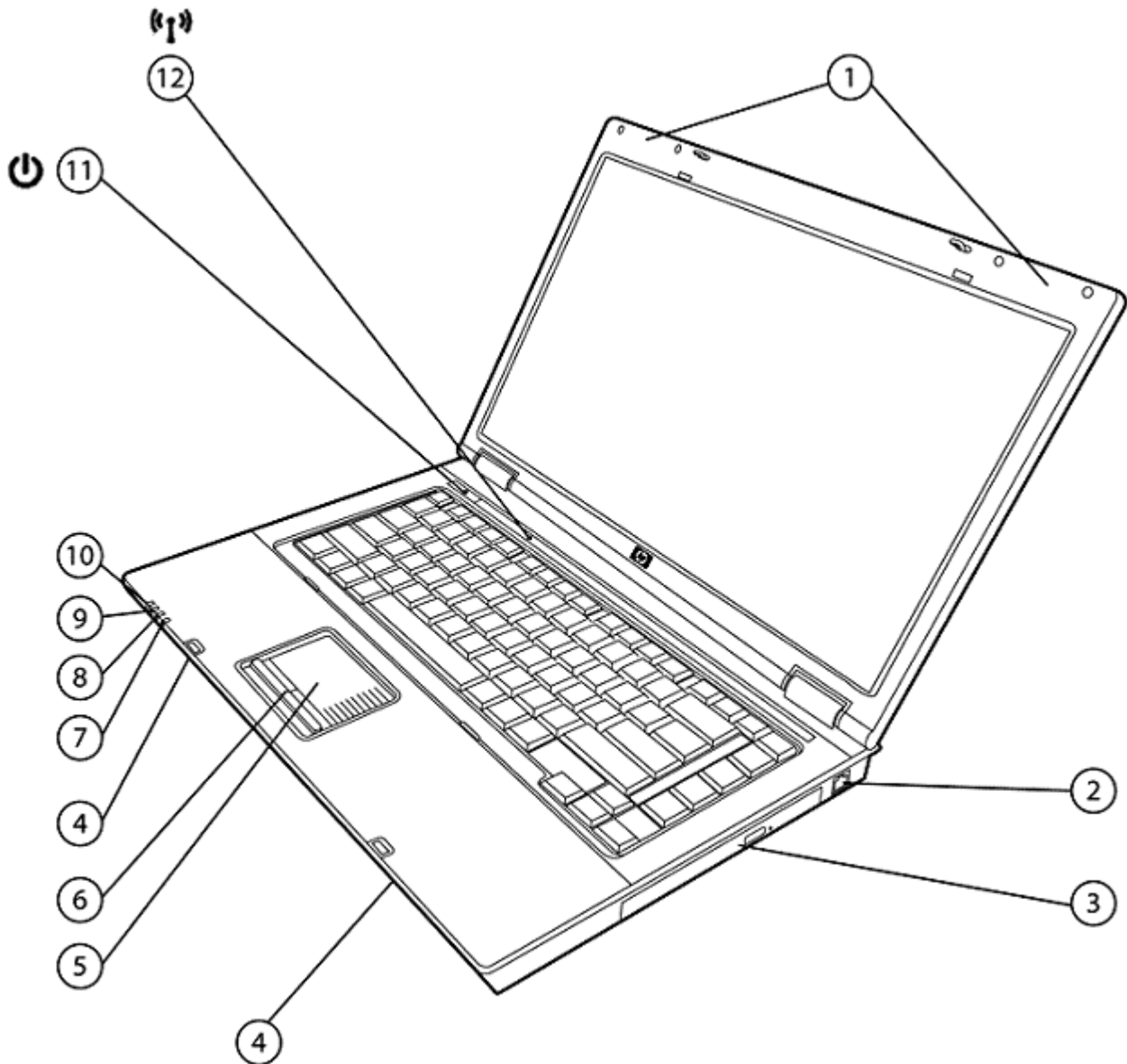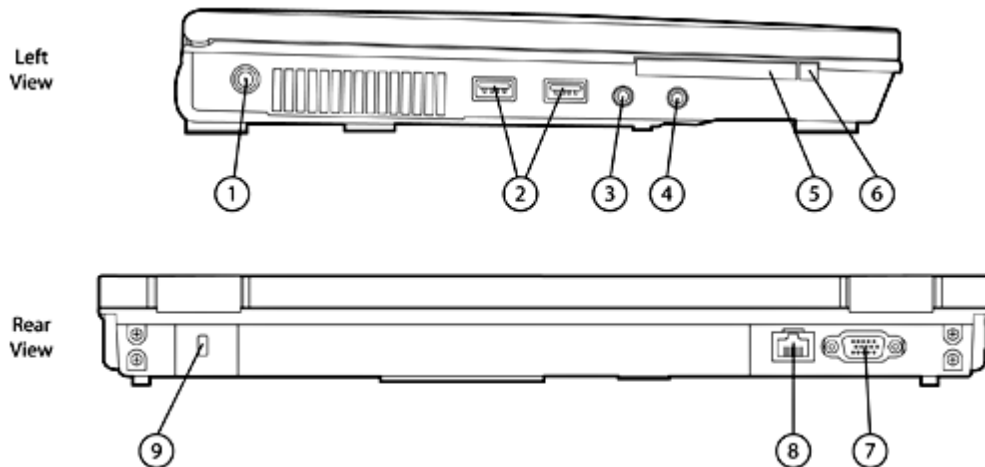# QuickSpecs

Overview

HP recommends Windows Vista® Business

1. WLAN Antennas (with WLAN option)
2. RJ-11/modem Port
3. Optical drive
4. Integrated stereo speakers
5. Touchpad with scroll zone
6. Touchpad buttons
7. Hard drive activity LED
8. Battery charging LED
9. Power/standby LED
10. Wireless on/off LED
11. Power button with LED
12. Wireless on/off Button with LED

Overview

1. Power connector
2. 2 USB 2.0 ports
3. Stereo headphone/line out
4. Stereo microphone in
5. Type I/II PC Card slot

6. PC Card eject button
7. VGA/external monitor connector
8. RJ-45/Ethernet Port
9. Kensington Lock slot

At A Glance

- Genuine Windows Vista Business 32, Genuine Windows Vista Home Basic 32, Genuine Windows Vista Home Premium
  or FreeDOS
- Widescreen 15.4-inch diagonal display with wide-viewing angle, BrightView and HP Privacy Filter options
- Wireless connectivity options:
  - Integrated 802.11a/b/g or 802.11b/g wireless LAN module
  - Bluetooth®
- Intel® Core™2 Duo processor or Intel Celeron® processor
- Thin, lightweight design starting at 2.62 kg and 34.9 mm thin at front
- Security features including HP ProtectTools Security Manager and Device Access Manager for HP ProtectTools
- Integrated optical drive, including optional DVD+/-RW SuperMulti DL LightScribe Drive
- HP 90W Smart AC Adapter
- Up to 160-GB 5400 rpm user-removable hard drive with HP DriveGuard protection
- Up to 4GB of 667-MHz DDR2 SDRAM, dual channel memory support
- Mobile Intel Graphics Media Accelerator X3100, with up to 384-MB shared system memory
- Broadcom NetLink Fast Ethernet Controller
- Touchpad with scroll zone

Standard Features

Processors	Intel Core 2 Duo Processor T7700 (2.40-GHz, 800-MHz FSB, 4-MB L2 cache)*
	Intel Core 2 Duo Processor T7500 (2.20-GHz, 800-MHz FSB, 4-MB L2 cache)*
	Intel Core 2 Duo Processor T7300 (2.00-GHz, 800-MHz FSB, 4-MB L2 cache)*
	Intel Core 2 Duo Processor T7100 (1.80-GHz, 800-MHz FSB, 2-MB L2 cache)*
	Intel Core 2 Duo Processor T5470 (1.60-GHz, 800-MHz FSB, 2-MB L2 cache)*
	Intel Celeron Processor 540 (1.86-GHz, 533-MHz FSB, 1-MB L2 cache)*

* Intel's numbering is not a measurement of higher performance.

NOTE: Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

Operating System	**Preinstalled**	Genuine Windows Vista Business 32*
		Genuine Windows Vista Home Premium 32*
		Genuine Windows Vista Home Basic 32*
		FreeDOS
	Supported	Genuine Windows XP Professional
	Certified	SuSE Linux Enterprise Desktop 10

* Certain Windows Vista product features require advanced or additional hardware. See http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and http://www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit http://www.windowsvista.com/upgradeadvisor.

Chipset	Mobile Intel GM965

Graphics	Mobile Intel Graphics Media Accelerator X3100, up to 384-MB shared system memory Microsoft DirectX 9 capable

Display	**Internal**	15.4-inch diagonal WXGA anti-glare (1280 x 800 resolution)
		15.4-inch diagonal WXGA BrightView (1280 x 800 resolution)
		15.4-inch diagonal WSXGA+ WVA anti-glare (1680 x 1050 resolution)
		HP Privacy Filter support
	External	Up to 32-bit per pixel color depth
		VGA port supports resolutions up to 2048 x 1536 at 75 Hz, and lower resolutions at up to 100 Hz
		NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings.

Standard Features

Memory	Standard	512-MB, 1024-MB, 2048-MB, or 4096-MB 667-MHz DDR2 SDRAM; two SODIMM slots supporting dual channel memory
	Maximum	Upgradeable to 4096-MB maximum (2048-MB SODIMM in slots 1 and 2)
	Dual-channel	Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

Communications	Integrated Broadcom NetLink Fast Ethernet Controller
	56K V.92 modem*

* Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.

Wireless Devices	Support for a broad range of secure, integrated wireless LAN options featuring support for the latest industry standards. Wireless LAN is factory configurable or available as an option to be added later. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN options.
All 802.11a/b/g integrated wireless LAN options	Wi-Fi certified Cisco Compatible Extensions support (Version 4.0) with Microsoft Windows XP Wired Equivalent Privacy (WEP) support up to 128-bit keys Wi-Fi Protected Access (WPA) and WPA2 support 802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, and LEAP Advanced Encryption Standard (AES) support WiFi certified for WPA2, WMM Dual antennas integrated in the display enclosure
Intel 3945 a/b/g or Broadcom 4311AG 802.11a/b/g WiFi Adapter*	Integrated support for 802.11 a, b and g Up to 54-mbps data rate
Intel 3945 b/g or Broadcom 4311BG 802.11b/g WiFi Adapter*	Integrated support for 802.11 b and g Up to 54-mbps data rate
Broadcom 4311AG 802.11a/b/g WiFi Adapter	Integrated support for 802.11 a, b and g Up to 54-mbps data rate
Broadcom 4311BG 802.11b/g WiFi Adapter	Integrated support for 802.11 b and g Up to 54-mbps data rate
HP Integrated Module with Bluetooth Wireless Technology	Bluetooth Specification v2.0 compliant Works with a wide range of Bluetooth devices

* Requires Intel Core 2 Duo processor

QuickSpecs

Standard Features

Keyboard		The 101/102-key compatible keyboard features an industry standard, full-pitch key layout with desktop keyboard features, such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, and 12 function keys. US and International key layouts are available. Other features include an integrated numeric keypad, hotkeys for instant access to power conservation, brightness, and other features, 19-mm x 19-mm key pitch (center-to-center spacing), 2.5-mm stroke, and comfort-dished keycaps.
Pointing device		Touchpad with scroll zone, two pick buttons
Expansion card slots	**1 Type I/II PC Card slot**	Supports 32-bit CardBus and 16-bit PC Cards
Storage	**Hard drives**	80/120/160-GB 5400 rpm SMART SATA
		NOTE: These hard drives are customer removable and will withstand multiple insertion/removal cycles. Up to 10 GB is reserved for the system recovery software.
	HP DriveGuard	The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive.
	Fixed optical drives	DVD/CD-RW Combo Drive DVD+/-RW SuperMulti DL Drive DVD+/-RW SuperMulti DL LightScribe Drive
Interfaces	**PC Card slot**	One Type I/II PC Card slot
	External monitor	One – VGA
	Stereo microphone in	One
	Stereo headphone/line out	One
	Power connector	One
	RJ-11/modem	One
	RJ-45/Ethernet	One
	USB 2.0	Two
	Secondary battery connector	One
	LED status indicators	Ten
Audio		High Definition Audio support w/24-bit DAC Integrated stereo speakers Stereo headphone/line out Stereo microphone in

Standard Features

Software	Preinstalled software with Windows Vista	HP Backup and Recovery Manager
		HP Help and Support Center
		HP Universal Print Driver
		HP ProtectTools Security Manager:
		Device Access Manager for HP ProtectTools*
		HP Quick Launch Buttons
		HP Wireless Assistant
		Microsoft Office Ready with 60-day Office Professional 2007 Trial Edition (selected models)
		Roxio Creator 9 for optional DVD+/-RW and DVD/CDRW drives)
		Synaptics Touchpad Driver
		Symantec Norton Internet Security with complimentary 60-day live update
		Intervideo WinDVD – DVD Player

* Download available from hp.com for Windows Vista; preinstalled with Windows XP.

HP Backup and Recovery Manager	Each unit is shipped with HP Backup and Recovery Manager. HP Backup and Recovery Manager can provide data and system file protection for HP business PCs to enable fast recovery if the system becomes corrupted or if important information is accidentally deleted. HP Backup and Recovery Manager can perform scheduled or manual backups of the entire drive or individual files and folders. Up to 10 GB of the hard drive is reserved for the system recovery software. HP Backup and Recovery Manager can also create software recovery CDs or DVDs (requires optional hardware).

SMBIOS Version 2.4	System Management BIOS, previously known as DMI BIOS, is used to store system management information.

HP ProtectTools Security Manager	HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. Modules currently available are:

- Device Access Manager for HP ProtectTools

Security	Standard Features	HP ProtectTools Security Manager
		Configuration Control Hardware
		Memory Change Alert
		Ownership Tag
		Setup Password
		Power-On Password
		DriveLock
		HP Disk Sanitizer
		HP DriveGuard
		Kensington Lock Slot
		Support for Computrace / LoJack for Laptops (must be purchased separately)
	Optional Features	HP Privacy Filter (narrows viewing area)

For more information on HP security solutions refer to http://www.hp.com/go/security.

Standard Features

Power Supply	External 90-watt Smart AC adapter, 6-foot (1.8-meter) power cord included. Total length including external AC adapter is 12 feet (3.66 meter). HP Fast Charge*	

*HP Fast Charge recharges your battery up to 90% within 90 minutes when the system is off. HP Fast Charge does not apply to 12-cell Ultra-Capacity batteries.

Battery	**Primary battery**	6-cell (47 WHr) Lithium-Ion battery
	Optional HP Extended Life Battery	8-cell (52 WHr) high capacity Lithium-Ion battery
	Optional HP Ultra-Capacity Battery	12-cell (95 WHr) high capacity Lithium-Ion battery

Battery Life	**Primary battery**	47 WHr: Up to 4 hours and 15 minutes
	Primary battery and optional HP Extended Life Battery	47 WHr: Up to 9 hours and 45 minutes
	Primary battery and optional HP Ultra-Capacity Battery	47 WHr: Up to 13 hours and 30 minutes

NOTE: The listed battery life measurements were taken on models running Microsoft Windows XP Professional. Battery life will vary depending on the product configuration, product model, applications loaded on the product, power management settings of the product, and the product features used by the customer. As with all batteries, the maximum capacity of this battery will decrease with time and usage.

System Standby Time	Up to 1 week

Power Conservation	Supports enhanced Intel SpeedStep technology with Intel Core 2 Duo processors (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode)
	Intel Display Power Saving technology
	Hibernation
	Standby
	ACPI compliance

Service and Support	HP Services offers limited 3-year, 1-year and 90-day warranty options depending on country; 1-year limited warranty on primary battery. On-site service and warranty upgrades are also available.

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.
http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp.

Options

Memory	HP 512-MB (DDR2 667 MHz) SODIMM	EM993AA
	HP 1-GB (DDR2 667 MHz) SODIMM	EM994AA
	HP 2-GB (DDR2 667 MHz) SODIMM	EM995AA
MultiBay II Storage (9.5-mm) **NOTE:** Requires HP External MultiBay II Cradle	HP MultiBay II DVD-ROM Drive	PA849A
	HP MultiBay II DVD/CD-RW Combo Drive	PA850A
	HP MultiBay II DVD+/-RW SuperMulti DL Drive	PA851A
	HP 80-GB 5400rpm MultiBay II Hard Drive	PH357A
Other Storage	HP 120-GB 5400rpm Primary SATA Hard Drive	RT080AA
	HP DVD+/-RW SuperMulti DL LightScribe Drive	ET353AA
	HP Notebooks USB Diskette Drive	DC361B
Communications	Intel Wireless WiFi Link 4965AGN option kit*	RT081AA#xxx
	* Requires Intel Core 2 Duo processor	
Power	HP (EMEA) 2-Bay Battery Charging Station	EW424AA#B13
	HP 90W Smart AC Adapter	ED495AA#xxx
	HP 65W AC/Auto/Air Combo Smart Adapter	ED993AA#xxx
	HP 6-Cell Li-Ion Primary Battery	PB994A
	HP 8-cell Extended Life Battery	PB993A
	HP 12-cell Ultra-Capacity Battery (EMEA)	EJ092AA#B13
Carrying Cases	HP Value Nylon Case	RR314AA
	HP Universal Nylon Case	RR415AA
	HP Executive Leather Case	RR316AA
	HP Deluxe Nylon Backpack	RR317AA
Security	HP PC Card Smart Card Reader with Java Card	EL347AA
	HP ProtectTools Java Card – 10 units	EL348AA
	HP/Kensington MicroSaver Security Lock	PC766A
Input/Output Devices	HP PS/2 Keyboard (EMEA)	DT527A#xxx
	HP USB Keyboard (EMEA)	DT528A#xxx
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Optical Travel Mouse	RH304AA
	HP Bluetooth PC Card Mouse	RJ316AA

Memory

Support for up to 4096 MB of 667-MHz DDR2 SDRAM
Two DIMM slots
DIMM sizes supported: 512 MB, 1024 MB, and 2048 MB

Standard Memory
- 512 MB (512 MB x 1)
- 1024 MB (1024 MB x 1 or 512 MB x 2)
- 2048 MB (2048 MB x 1 or 1024 MB x 2)
- 4096 MB (2048 MB x 2)

Optional Memory Upgrades

Support for up to 4096 MB of memory is available (with the installation of optional DDR2 SDRAM memory kits). Both memory slots are user accessible. Please refer to the Hardware and Software Guide for installation procedures. Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

Up to	Slot 1	Slot 2
1024 MB	1024 MB	Empty
1024 MB	512 MB	512 MB
1536 MB	1024 MB	512 MB
2048 MB	1024 MB	1024 MB
4096 MB	2048 MB	2048 MB

NOTE: This chart does not represent all possible memory configurations. Due to the non-industry standard nature of some third-party memory modules, we strongly recommend using only HP branded memory modules to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

Memory Upgrades

HP 512-MB (DDR2 667 MHz) SODIMM	EM993AA
HP 1024-MB (DDR2 667 MHz) SODIMM	EM994AA
HP 2048-MB (DDR2 667 MHz) SODIMM	EM995AA

Storage

Removable Media Drive Support

	Quantity Supported	Drive Bay
DVD/CD-RW Combo Drive	One	Fixed optical drive bay
DVD+/-RW SuperMulti DL Drive	One	Fixed optical drive bay
DVD+/-RW SuperMulti DL LightScribe Drive	One	Fixed optical drive bay

Hard Drive Support

	Quantity Supported	Drive Bay
Primary Hard Drives		
160-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay
120-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay
80-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay

Technical Specifications

System Unit			
	Dimensions (HxWxD)	34.9 mm (at front) x 357.0 mm x 265.0 mm	
	Weight	2.62 kg	

NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, 80-GB hard drive, and optical drive. Weight varies by configuration and components.

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	18.5 V
	Average Operating Power	12.5 W
	Max Operating Power	< 90 W
Temperature	Operating	0° to 35° C (not writing optical)
		5° to 35° C (writing optical)
	Non-operating	−20° to 60° C
Relative Humidity	Operating	10% to 90%, non-condensing
	Non-operating	5% to 95%, 38.7° C maximum wet bulb temperature
Shock	Operating	125 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	Operating	0.75 grms
	Non-operating	1.50 grms
Altitude (unpressurized)	Operating	−15.24 to 3,048 m
	Non-operating	−15.24 to 12,192 m
Industry Standard Certifications	UL	Yes
	CSA	Yes
	FCC Compliance	Yes
	Energy Star Compliant	Yes
	ICES	Yes
	GS	Yes
	Australia / NZ A-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	MIC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	BNCI or BELUS	Yes
	CIT	Yes
	GOST	Yes
	Saudi Arabian Compliance (ICCP)	Yes
	SABS	Yes
	UKRSERTCOMPUTER	Yes

QuickSpecs

Technical Specifications

HP 90W Smart AC Adapter	**Dimensions**	13.3 x 5.8 x 2.9 cm	
	Weight	390 g	
	Input	100 to 240 VAC	
		Input Efficiency	83% min at 115 VAC
		Input frequency range	47 to 63 Hz
		Input AC current	1.5 A at 90 VAC, 0.75 A at 180 VAC PFC Version
			2.4 A at 90 VAC, 1.2 A at 180 VAC NON PFC Version
	Output	Output power	90W
		DC output	18.5V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature	0° to 40° C)
		Non-operating (storage) temperature	−20° to 65° C
		Altitude	0 to 3,048 m
		Humidity	20% to 80%
		Storage Humidity	10% to 90%
	EMI and Safety Certifications	CE Mark – full compliance with LVD and EMC directives; Worldwide safety standards – IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals – C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF- over 200,000 hours at 25°C ambient condition.	

Optional HP Ultra-Capacity Battery	**Dimensions** (H x W x L)	3.33 x 15.25 x 26.88 cm	
	Weight	0.803 kg	
	Cells/Type	12-cell Lithium-Ion	
	Energy	Watt-hour Capacity	95Wh
	Temperature	Operating (Charging)	0° to 45° C
		Operating (Discharging)	−10° to 60° C
		Non-operating	−20° to 60° C
	Battery Re-Charge Time	Smart Adapter	3 to 4 hours
		System ON	4 to 5 hours (depending on system power consumption)
	Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery	

QuickSpecs

Technical Specifications

Optional HP Extended Life Battery	**Dimensions** (H x W x L)	2.5 x 10.0 x 22.0 cm	
	Weight	0.455 kg	
	Cells/Type	8-cell Lithium-Ion	
	Energy	Watt-hour Capacity	52Wh
	Temperature	Operating (Charging)	0° to 45° C
		Operating (Discharging)	−10° to 60° C
		Non-operating	−20° to 60° C
	Battery Re-Charge Time	System in OFF mode or Standby	3 hours
		System ON	3 to 5 hours (depending on system power consumption)
		HP Fast Charge	Charges the battery up to 90% within 90 minutes when system is OFF
	Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery	

6-Cell (47WHr) Lithium-Ion battery	**Dimensions** (H x W x L)	2.0 x 5.3 x 20.3 cm	
	Weight	0.325 kg	
	Cells/Type	6-cell Lithium-Ion	
	Energy	Watt-hour Capacity	47Wh
	Temperature	Operating (Charging)	0° to 45° C
		Operating (Discharging)	−10° to 60° C
		Non-operating	−20° to 60° C
	Battery Re-Charge Time	System in OFF Mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)
		HP Fast Charge	Charges the battery up to 90% within 90 minutes when system is OFF

15.4-inch WSXGA+ wide-viewing angle, anti-glare	**Dimensions** (W x H)	33.1 x 20.7 cm	
	Diagonal Size	39.1 cm	
	Surface Treatment	Anti-glare	
	Contrast Ratio	300:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	**Pitch**	0.197 mm
		Format	1680 x 1050
		Configuration	RGB stripe
	Backlight	CCFL	
	PPI	129	
	Viewing Angle	±60° Horizontal, ± 50° Vertical (minimum)	

QuickSpecs

Technical Specifications

15.4-inch WXGA anti-glare	**Active Area** (W x H)	33.1 x 20.7 cm	
	Diagonal Size	39.1 cm	
	Surface Treatment	Anti-glare	
	Contrast Ratio	300:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	**Pitch**	0.259 mm
		Format	1280 x 800
		Configuration	RGB stripe
	Backlight	CCFL	
	PPI	98	
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum)	

15.4-inch WXGA BrightView	**Active Area** (W x H)	33.1 x 20.7 cm	
	Diagonal Size	39.1 cm	
	Surface Treatment	BrightView	
	Contrast Ratio	300:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	**Pitch**	0.259 mm
		Format	1280 x 800
		Configuration	RGB stripe
	Backlight	CCFL	
	PPI	98	
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum)	

Hard Drives

QuickSpecs

Technical Specifications

160-GB 5400 rpm SATA			
Drive Weight	101 g		
Capacity	160 GB		
Height	9.5 mm		
Width	70 mm		
Interface	ATA-7 / SATA 1.0a		
Transfer Rate	**Synchronous** (maximum)	100 MB/s (Drive Capability)	
Seek Time (typical reads, including settling)	**Single Track**	3 ms	
	Average	13ms	
	Maximum	24 ms	
Rotational Speed	5400 rpm		
Logical Blocks	312,581,808		
Operating Temperature	5° to 60° C [case temp]		
Features	ATA Security		

120-GB 5400 rpm SATA			
Drive Weight	101 g		
Capacity	120 GB		
Height	9.5 mm		
Width	70 mm		
Interface	ATA-7 / SATA 1.0a		
Transfer Rate	**Synchronous** (maximum)	100 MB/s (Drive Capability)	
Seek Time (typical reads, including settling)	**Single Track**	3 ms	
	Average	13 ms	
	Maximum	24 ms	
Rotational Speed	5400 rpm		
Logical Blocks	234,441,648		
Operating Temperature	5° to 60° C [case temp]		
Features	ATA Security		

Technical Specifications

80-GB 5400 rpm SATA			
Drive Weight	101 g		
Capacity	80 GB		
Height	9.5 mm		
Width	70 mm		
Interface	ATA-7 / SATA 1.0a		
Transfer Rate	**Synchronous** (maximum)	100 MB/s (Drive Capability)	
Seek Time (typical reads, including settling)	**Single Track**	3 ms	
	Average	13 ms	
	Maximum	24 ms	
Rotational Speed	5400 rpm		
Logical Blocks	156,301,488		
Operating Temperature	5° to 60° C [case temp]		
Features	ATA Security		

Removable Storage Drives

DVD/CD-RW Combo Drive			
Access Times	Random	<110 ms CD	
		<130 ms DVD	
Max Data Transfer Rate	24X CD-ROM	3,600 KB/s	
	8X DVD	10,800 KB/s	
	24X CD-R	3,600 KB/s	
	24X CD-RW	3,600 KB/s	
Transfer Mode	Multiword DMA Mode 2		
Interface	EIDE		
Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW		
Supported Media (write)	CD-R, CD-RW		
Max Media Capacity (read)	8.5 GB		
Max Media Capacity (write)	700 MB		
Transport	Tray loading		

Technical Specifications

DVD+/-RW SuperMulti DL Drive	Access Times	Random	<175 ms CD
			<230 ms DVD
	Max Data Transfer Rate	24X CD-ROM	3,600 KB/s
		8X DVD	10,800 KB/s
		24X CD-R	3,600 KB/s
		16X CD-RW	2,400 KB/s
		8X DVD+R	10,800 KB/s
		4X DVD+RW	5,400 KB/s
		8X DVD-R	10,800 KB/s
		4X DVD-RW	5,400 KB/s
		2.4X DVD+R(9)	2,700 KB/s
		5X DVD-RAM	6,750 KB/s
	Transfer Mode	Multiword DMA Mode	
	Interface	EIDE	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
	Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM	
	Max Media Capacity (read)	8.5 GB	
	Max Media Capacity (write)	8.5 GB	
	Transport	Tray Loading	

DVD+/-RW SuperMulti DL LightScribe Drive	Access Times	Random	<175 ms CD
			<230 ms DVD
	Max Data Transfer Rate	24X CD-ROM	3,600 KB/s
		8X DVD	10,800 KB/s
		24X CD-R	3,600 KB/s
		16X CD-RW	2,400 KB/s
		8X DVD+R	10,800 KB/s
		4X DVD+RW	5,400 KB/s
		8X DVD-R	10,800 KB/s
		4X DVD-RW	5,400 KB/s
		2.4X DVD+R(9)	2,700 KB/s
		5X DVD-RAM	6,750 KB/s
	Transfer Mode	Multiword DMA Mode	
	Interface	EIDE	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	

Technical Specifications

Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, LightScribe	
Max Media Capacity (read)	8.5 GB	
Max Media Capacity (write)	8.5 GB	
Transport	Tray Loading	

Audio

Hardware	Implementation	ADI1981HD High Definition CODEC
	Touch-Sensitive Volume Controls	Volume up, volume down, and mute
	Full Duplex	Yes
	Sound Blaster Pro compatible	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo

Audio Output Quality	Frequency Response	20 Hz – 20 kHz
	Signal to Noise Ratio	>85 dB
	Total Harmonic Distortion	0.01%
	Noise Floor	-110 dB
	Play/Record Sampling Rate(s)	8 kHz – 48kHz
	DAC	16, 20 or 24-bit
	ADC	16 or 20-bit

Integrated Stereo Speakers	Power Rating	2 Watts
	Impedance	4 Ohms

Communications

Technical Specifications

Integrated Broadcom NetLink Fast Ethernet Controller (10/100 NIC)	**Ethernet Features**	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)
		100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)
		Auto-Negotiation (Automatic Speed Selection)
		Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s
		IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
	Power Management	ACPI compliant -- multiple power modes Situation-sensitive features reduce power consumption
	Manageability	Wake-on-LAN from standby and hibernation (configurable; Magic Packet and Microsoft Wake-Up Frame)
		PXE 2.1 Remote Boot
		Statistics Gathering (RMON, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))
		Comprehensive diagnostic and configuration software suite
	Interface	PCI Express x1
	NIC Device Driver Name	Broadcom 590x 10/100 Ethernet
	Drivers Available	Microsoft Windows Vista Microsoft Windows XP

V.92 56K Data/Fax Modem	**Form Factor**	MDC 1.5 Daughtercard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/ Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
	Data Mode Capabilities	V.92 data
		V.8bis
		V.80
		V44, V.42bis, MNP5 (Compression)
		V.42 (LAPM, MNP2-4) (Error Correction)
		Optional symbol rates: 2800, 3429 Asymmetric Symbol rates
		Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.34 V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J

Technical Specifications

Fax Mode Capabilities	TIA/EIA-578-B (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2	
Command Set	V.250 (Partial) TIA-602 Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR Modulation: +MS, +MR, +MA Error control: +ES, +ER, +EB, +ESR, +ETBM Data compression: +DS, +DR V.251	

Intel PRO/Wireless 3945ABG Network Connection		
	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 2000 and XP (details at http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST, EAP-SIM. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4).
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CKK)[2]	15 dBm
	Output Power (for OFDM; power varies by data rate)[2]	15 dBm
	Power Consumption	Transmit: 1.8 Watts (max) Receive: 1.4 Watts (max) Idle mode[3]: 150 mW (nominal) Sleep mode: 30 mW (max)

Technical Specifications

Power Management	ACPI compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity[4]	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm	
Antenna Connections	2 U.FL type connectors, 50 ohm nominal impedance	
Range	802.11 a – Typical (@6 Mbps)	600 feet – Outdoor Open Area 150 feet – Indoor, Office environment
	802.11 b – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	PCI-Express MiniCard	
Weight	0.013 lb (6 g)	
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)	
Operating Voltage	3.3V +/- 9%, 1.5V +/- 5%	
Temperature	Operating Non-operating	32° to 176° F (0° to 80° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
Configuration Utility[5]	Microsoft Windows 2000 or XP Choice of Configuration Utility:	

- Microsoft Windows XP Wireless Network Connection Manager
- Intel PROSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager

LED Activity	LED Off – Radio OFF; Solid LED On – Radio ON

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. In Power Save Polling mode.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows 2000 or XP. WLAN may also be compatible with certain third-party software supplicants.

Intel PRO/Wireless 3945BG Network Connection	**Wireless LAN Standards**	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 2000 and XP (details at http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

Technical Specifications

Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST, EAP-SIM. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4).
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power (for CKK)[2]	15 dBm
Output Power (for OFDM; power varies by data rate)[2]	15 dBm
Power Consumption	Transmit: 1.8 Watts (max) Receive: 1.4 Watts (max) Idle mode[3]: 150 mW (nominal) Sleep mode: 30 mW (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm
Antenna Connections	2 U.FL type connectors, 50 ohm nominal impedance

Range	802.11 b – Typical (@1 Mbps) 1200 feet – Outdoor Open Area
	                                 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps) 1200 feet – Outdoor Open Area
	                                 300 feet – Indoor, Office environment

Form Factor	PCI-Express MiniCard
Weight	0.013 lb (6 g)
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)
Operating Voltage	3.3V +/- 9%, 1.5V +/- 5%
Temperature	Operating 32° to 176° F (0° to 80° C) Non-operating −40° to 176° F (−40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
Altitude	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)

Technical Specifications

<table>
<tr><td>**Configuration Utility**[5]</td><td>Microsoft Windows 2000 or XP
   Choice of Configuration Utility:</td></tr>
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- Microsoft Windows XP Wireless Network Connection Manager
- Intel PROSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager

LED Activity   LED Off – Radio OFF; Solid LED On – Radio ON

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. In Power Save Polling mode.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows 2000 or XP. WLAN may also be compatible with certain third-party software supplicants.

Broadcom 4311AG 802.11a/b/g WiFi Adapter	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 2000 and XP (details at http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz and 5 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4).
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CKK)[2]	17.5 dBm
	Output Power (for OFDM; power varies by data rate)[2]	15 dBm

Technical Specifications

Power Consumption	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode[3]: 390 mW (nominal) Sleep mode: 20 mW (max)	
Power Management	ACPI compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity[4]	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm	
Antenna type	High efficiency dual band antenna with spatial diversity, mounted in the display enclosure	
Range	802.11 a – Typical (@6 Mbps)	600 feet – Outdoor Open Area 150 feet – Indoor, Office environment
	802.11 b – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	PCI-Express MiniCard	
Weight	0.026 lb (12 g)	
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating Non-operating	32° to 176° F (0° to 80° C) -40° to 176° F (-40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)

Configuration Utility[5]   Microsoft Windows 2000 or XP
   Choice of Configuration Utility:

- Microsoft Windows XP Wireless Network Connection Manager
- Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support)

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager

LED Activity   LED Off – Radio OFF; Solid LED On – Radio ON

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. In Power Save Polling mode.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows 2000 or XP. WLAN may also be compatible with certain third-party software supplicants.

Broadcom 4311BG **802.11b/g WiFi Adapter**	**Wireless LAN** **Standards**	IEEE 802.11b IEEE 802.11g

Technical Specifications

Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 2000 and XP (details at http://www.hp.com/go/notebooks/WLAN)
Frequency Band	2.4 GHz
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4).
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power (for CKK)[2]	17.5 dBm
Output Power (for OFDM; power varies by data rate)[2]	15 dBm
Power Consumption	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode[3]: 390 mW (nominal) Sleep mode: 20 mW (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm
Antenna type	High efficiency dual band antenna with spatial diversity, mounted in the display enclosure

Range	802.11 b – Typical (@1 Mbps) 1200 feet – Outdoor Open Area
	     300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps) 1200 feet – Outdoor Open Area
	     300 feet – Indoor, Office environment

Form Factor	PCI-Express MiniCard
Weight	0.026 lb (12 g)
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)
Operating Voltage	3.3v +/- 10%
Temperature	Operating 32° to 176° F (0° to 80° C) Non-operating –40° to 176° F (–40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)

Technical Specifications

Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)

Configuration Utility[5] Microsoft Windows 2000 or XP
    Choice of Configuration Utility:

- Microsoft Windows XP Wireless Network Connection Manager
- Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support)

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager

LED Activity   LED Off – Radio OFF; Solid LED On – Radio ON

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. In Power Save Polling mode.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows 2000 or XP. WLAN may also be compatible with certain third-party software supplicants.

HP Integrated Module with Bluetooth Wireless Technology	**Bluetooth Specification**	2.0 Compliant
	Dimensions	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
	Frequency Band	2402 to 2480 MHz
	Number of Available Channels	79 (1 MHz) available channels
	Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps
		Synchronous Connection Oriented links up to 3, 64 kbps, voice channels
		Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric
	Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
	Receiver Sensitivity	Better than -80 dBM at 0.1 % raw bit error rate
	Power Consumption	Peak (Tx) 264 mW
		Peak (Rx) 231 mW
		Sleep <1 mW
	Antenna	Internally integrated within module
	Range	Up 33 ft (10 m)
	Electrical Interface	USB 2.0 compliant
		Microsoft Windows Plug and Play compliant
	OS Support	Genuine Windows Vista
		Genuine Windows XP
		Genuine Windows 2000
	Bluetooth Software Supported	Broadcom Bluetooth for Windows
		Microsoft Windows XP Bluetooth Software
	Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves

Technical Specifications

Security	Full support of Bluetooth Security Provisions	
Power Management	Microsoft Windows ACPI, and USB Bus Support	
	Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff	
Certifications	All necessary regulatory approvals for supported countries, including:	
	FCC (47 CFR) Part 15C, Section 15.247 & 15.249	
	ETS 300 328, ETS 300 826	
	Low Voltage Directive IEC950	
	UL, CSA, and CE Mark	
Temperature	Operating	-4° to 158° F (-20° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90%
	Non-operating	5% to 95%
Altitude	Operating	15,000 ft (4,572 m)
	Non-operating	40,000 ft (12,192 m)
Bluetooth Profiles Supported	(with Bluetooth for Windows 4.0 software)	
	Serial Port Profile (SPP)*	
	Dial-Up Networking (DUN)*	
	Generic Object Exchange Profile (GOEP)	
	Object Push Profile (OPP)*	
	File Transfer Profile (FTP)	
	Synchronization Profile (SYNC)	
	Hard Copy Cable Replacement (HCRP)*	
	Personal Area Networking Profile (PAN)*	
	Human Interface Device Profile (HID)*	
	FAX Profile (FAX)	
	Basic Imaging Profile (BIP)	
	Headset Profile (HSP)	
	Hands Free Profile (HFP)	
	Advanced Audio Distribution Profile (A2DP)	

* indicates the profile is also supported by Microsoft Windows XP SP2